



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,279	05/30/2001	Kazuyuki Sakamaki	211A 3123	7301

7590 01/06/2005

Koda & Androlia  
2029 Century Park East  
Suite 1430  
Los Angeles, CA 90067-3024

EXAMINER

MCANULTY, TIMOTHY P

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/870,279

Applicant(s)

SAKAMAKI, KAZUYUKI

Examiner

Timothy P McNulty

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 and 9 are indefinite because it is unclear how the diametrical ribs are located between the shaft-supporting portion and an *innermost* of the at least two circumferential ribs because claims 1 and 3 respectively limit the diametrical ribs to extend *from* an innermost side of an *outermost* circumferential rib. Such a limitation does not broadly limit the diametrical ribs to merely be within said outermost circumferential rib but more narrowly requires the diametrical ribs to originate from an innermost side of an outermost circumferential rib.

Claims 8 and 9 are indefinite because it is unclear how a first number that represents only integer components (i.e., the first number cannot represent fractional components) can be *substantially* the same as a second number that similarly represents only integer components. Such a limitation is relative and one of ordinary skill in the art cannot ascertain the degree of what constitutes substantially the same number of diametrical ribs.

### *Claim Rejections - 35 USC § 103*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 3682

4. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-278124 in view of Williams et al.

JP 10-278124 discloses in figures 1a and 1b, a plastic gear having teeth 3 on an annular portion thereof; a shaft supporting member 2; at least two circumferential ribs including a radially outermost circumferential rib 5 located outside of an intermediate point located between a rotational center of said gear and an outermost circumference of said gear and a radially innermost circumferential rib 6; a plurality of radially extending diametrical ribs 7 extending from an innermost side of said outermost annular rib toward said shaft supporting member; a plurality of radially extending diametrical ribs 8 extending between said innermost circumferential rib and said shaft supporting member; and a first web portion 4 located between said outermost circumferential rib and said teeth. JP 10-278124 does not disclose said web portion being corrugated. However, Williams teaches in figures 1 and 3 and in lines 23-25 of column 2, a plastic gear having a corrugated web portion, wherein said web portion may comprise curvilinear, two-sided, or three-sided corrugations. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of JP 10-278124 in view of Williams et al. to form the first web portion with corrugations to increase the axial strength of the gear without significantly increasing the required material of construction.

Regarding claim 6, the reference combination previously set forth discloses the basic apparatus except for the thickness of said first web portion being the same as a thickness of a second web portion located between said shaft supporting member and second annular ring 6. However, it would have been obvious as a matter of engineering design choice to make the

Art Unit: 3682

thickness of said first web portion the same as the thickness of said second web portion, because such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claims 8 and 9 as best understood, the reference combination previously set forth discloses the basic apparatus except for the number of radially extending diametrical ribs extending from an innermost side of said outermost circumferential rib towards said shaft supporting member being substantially the same as the number of radially extending diametrical ribs extending between said innermost circumferential rib and said shaft supporting member. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the number of diametrical ribs between said shaft supporting portion and said innermost circumferential rib, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Additionally, it has also been held that discovering an optimum value of a result effective variable (here the number of diametrical ribs) involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. Finally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of JP 10-278124 to provide additional diametrical ribs between said shaft supporting portion and said innermost circumferential rib so as to increase the rigidity of the web therebetween.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-278124 in view of Williams et al. as applied to claims 1 and 3 above, and further in view of Mlenjnek et al.

The reference combination previously set forth discloses the basic apparatus but does not disclose said plastic gear used to drive an image-forming device. However, Mlenjnek et al. teaches in figure 4 a laser printer drive train having drive means 31,32 which drive a photoconductor drum 37 through a plastic gear 18. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference combination previously set forth in view of the teachings of Mlenjnek et al. to utilize a corrugated plastic gear in a drive train of photoconductor apparatus to eliminate vibration transmitted to said drum and thus improve print quality.

### ***Response to Arguments***

6. Applicant's arguments filed 16 December 2004 have been fully considered but they are not persuasive. Williams et al. clearly teaches a plastic gear having corrugations to provide increased strength, see lines 44-59 of column 1. As such, the teachings of Williams et al. are applicable to modify the web portions of the plastic gear of JP 10-278124 to increase the axial strength thereof, regardless of where those web portions are located on a gear. As such, the teachings of Williams et al. apply to increasing the strength of the web portion 4 located between said rib 5 and the teeth 3 of JP10-278124 and are not limited to only increasing the strength of a web portion between a shaft supporting member and an outer tooth portion.

The examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re Simon*, 174 USPQ (CCPA

Art Unit: 3682

1972); *In re McLaughlin*, 170 USPQ 209 (CCPA1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). Accordingly the teachings of Williams et al. are applicable.

Regarding claims 8 and 9, providing additional diametrical ribs is obvious to one of ordinary skill in the art.

7. This is a request for continued examination (RCE) of applicant's earlier Application No. 09/870279. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

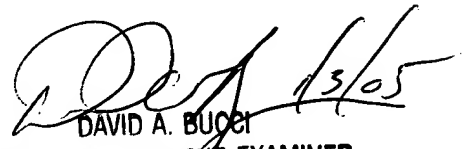
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00).

Art Unit: 3682

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
tpm

  
DAVID A. BUCCI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600